REMARKS

The Official Action mailed September 8, 2004, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicants respectfully submit that this response is being timely filed.

The Applicants note with appreciation the consideration of the Information Disclosure Statements filed on March 19, 2002, and July 15, 2004.

Claims 7-14, 21-29 and 37-46 were pending in the present application prior to the above amendment. Claims 7-10, 14, 21-25, 29, 37-40 and 44 have been amended to better recite the features of the present invention, and new claim 47 has been added to recite additional protection to which the Applicants are entitled. The Applicants note with appreciation the allowance of claims 7-14, 21, 22, 24, 25 and 37-46 (page 3, Paper No. 090704). Although not specifically mentioned, it also appears that claims 26-29 as they depend from allowable claims 21, 22, 24 and 25 are also allowed. Accordingly, claims 17-14, 21-29 and 37-47 are now pending in the present application, of which claims 7-10, 21-25 and 37-40 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 4 of the Official Action requests the Applicants cooperation in correcting any errors of which the Applicants may become aware in the specification. In response, the specification has been amended to correct minor typographical errors. In particular, the Applicants have corrected a typographical error by changing BCl_2 to BCl_3, which is a type of etching gas. Other minor typographical errors have been corrected as noted above. The Applicants will correct any further errors in the specification of which the Applicants become aware.

Paragraph 2 of the Official Action rejects claims 23, 27 and 29 as obvious based on the combination of U.S. Patent No. 5,670,062 to Lin et al. and "Wolf (Silicon Processing for the VLSI Era)." Paragraph 3 of the Official Action rejects claims 26 and

28 as obvious based on the combination of Lin, Wolf and U.S. Patent No. 5,912,506 to Colgan et al. It is noted that the Wolf article does not appear to be officially of record, i.e. it has not been cited by the Applicants on Form PTO-1449 or by the Examiner on Form PTO-892. The Applicants respectfully request that the Examiner make the Wolf article of record and provide a copy of the article to the Applicants or withdraw the rejection on the basis of Wolf. In any event, the Applicants respectfully submit that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The present invention relates to a method of manufacturing a wiring and wiring board, also a method of manufacturing a semiconductor device utilizing the wiring and wiring board.

The prior art, either alone or in combination, does not teach or suggest all the features of independent claim 23, as amended. Independent claim 23 has been amended to recite patterning first, second and third conductive layers by a dry etching method to form a conductive layer with a taper portion. These features are supported in the specification at page 16, line 11 to 20, for example. In Lin, layers 32, 34 and 36 appear to be etched by a spin etcher with an etching solution (see column 3, line 65 to column 4, line 13). It is known that a spin etcher is a type of wet etching apparatus with an etching solution. The Applicants respectfully submit that layers 32, 34 and 36 are patterned by wet etching method and that Lin does not teach or suggest patterning first, second and third conductive layers by a dry etching method to form a conductive layer with a taper portion.

Wolf and Colgan do not cure the deficiencies in Lin. The Official Action relies on Wolf to allegedly teach a conventional resist stripper with exposure to oxygen plasma (page 2, Paper No. 090704) and on Colgan to allegedly teach the use of a first layer of Mo or W, a second layer of Al and a third layer of Ti (page 3, Id.). However, Lin, Wolf and Colgan, either alone or in combination, do not teach or suggest patterning first, second and third conductive layers by a dry etching method to form a conductive layer with a taper portion.

Since Lin, Wolf and Colgan do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

New dependent claim 47 have been added to recite additional protection to which the Applicants are entitled. Claim 47 recites that the plasma treatment includes an oxidizing step. The features of claim 47 are supported by the specification at page 22, lines 12 to 24 and FIG. 17B, for example. For the reasons stated above and already of record, the Applicants respectfully submit that new claim 47 is in condition for allowance.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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